



Applicant: Taylor
Application Serial No.: 10/723,678
Filing Date: November 25, 2003
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-30 (canceled).

Claim 31 (currently amended): A method for determining a phase angle relationship between capacitive test points, comprising the steps of:

receiving a first waveform indicating the presence of a voltage at first capacitive test point;

receiving a second waveform indicating the presence of a voltage at a second capacitive test point;

comparing the first and second waveforms with respect to time;

measuring a phase angle difference between the first and the second waveforms

independent of voltage values at the first and the second capacitive points; and

determining the phase angle relationship between the first and the second capacitive test points based on said phase angle difference.

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Claim 32 (previously presented): The method of claim 31, further comprising:

displaying the phase angle relationship between the first and second capacitive test points.

Claim 33 (previously presented): The method of claim 31, wherein the phase angle difference determines whether the voltages at the first and the second capacitive test points are in phase.

Claim 34 (previously presented): The method of claim 31, wherein the phase angle difference determines whether the voltages at the first and the second capacitive test points are out of phase.

Claim 35 (canceled).

Claim 36 (previously presented): The method of claim 31, wherein the phase angle difference is independent of contamination at first and second capacitive test points.

Claim 37 (currently amended): An apparatus for detecting a phase angle relationship between two capacitive test points, comprising:

a first amplifier having an input and output, including a first resistor connected to the input of the first amplifier for providing a low input impedance at the first amplifier;

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a first voltage channel connected to the input of the first amplifier for receiving first voltage signal from a first capacitive test point;

a second amplifier having an input and output, including a second resistor connected to the input of the second amplifier for providing a low input impedance at the second amplifier;

a second voltage channel connected to the input of the second amplifier for receiving second voltage signal from a second capacitive test point;

a power on self-tester coupled to send test voltage signals to the first and second amplifiers for testing the functionality of the apparatus;

a first output voltage signal received from the output of the first amplifier;

a second output voltage signal received from the output of the second amplifier;

a phase detector coupled to receive the first and second output voltage signals, wherein the phase detector determines a phase angle difference between the first and the second output voltage signals independent of voltage values at the first and second capacitive points;

a state detector coupled to receive the first and second output voltage signals; and

a switch connected to the state detector.

Claim 38 (previously presented): The apparatus of claim 37, wherein the phase angle difference determines whether voltages at the first and second capacitive test points are in phase.

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Claim 39 (previously presented): The apparatus of claim 37, wherein the phase angle difference determines whether voltages at the first and second capacitive test points are out of phase.

Claim 40 (canceled).

Claim 41 (previously presented): The apparatus of claim 37, wherein the phase angle difference is independent of the contamination at the first and the second capacitive test points.

Claim 42 (previously presented): The apparatus of claim 37, wherein the first and second resistors are in the magnitude of tens of kilohms.

Claim 43 (previously presented): The apparatus of claim 42, wherein the first and second resistors are measured at 22 kilohms.

Claim 44 (previously presented): The apparatus of claim 37, wherein the state detector accurately indicates that a voltage is present at the first and second capacitive test points.

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Claim 45 (previously presented): The apparatus of claim 44, wherein the state detector sends a signal to the phase detector when the voltage is present at the first and second capacitive test points.